CLAIMS LISTING

1-3. (cancelled)

4. (currently amended) The ~~A~~ method ~~as claimed in~~ of claim ~~1~~ 21, ~~CHARACTERIZED in that a total volume of the ceramic powders to be~~ wherein said starting powder components are charged into ~~the~~ said container in an amount ~~is set to be~~ not in excess of 90% of a free volume of said container in said ~~thereof falling on the~~ inductor ~~electro~~magnetic field ~~rotation zone~~.

5. (currently amended) The ~~A~~ method ~~as claimed in~~ of claim ~~1~~ 21, ~~CHARACTERIZED in that use is made of~~ wherein said ferromagnetic needles~~, wherein the ratio of the~~ have a length ~~thereof~~ to ~~their~~ diameter ratio ~~varies~~ of from 8 to 14.

6. (currently amended) The ~~A~~ method ~~as claimed in claims 1, 2, 3 and 4~~ of claim 21, wherein ~~CHARACTERIZED in that the~~ a ratio of a total weight of ~~ceramic powders~~ said starting powdered components to ~~the~~ a weight of said ferromagnetic needles is ~~set to range~~ from 0.3 to 3.0~~, predominantly from 0.5 to 2.0~~.

7.(currently amended) The ~~A~~ method ~~as claimed in~~ of claim ~~1~~ 21, ~~CHARACTERIZED in that rotation frequency of the~~ wherein said inductor ~~electro~~magnetic field has a rotation frequency of ~~is set to be~~ from 10 to 50 Hz.

8.(currently amended) The ~~A~~ method ~~as claimed in~~ of claim ~~1~~ 21, ~~CHARACTERIZED in that the powders~~ wherein said starting powdered components are ground and mixed together for 1-20 minutes.

9.(currently amended) The ~~A~~ method ~~as claimed in~~ of claim 8, ~~CHARACTERIZED in that the powders~~ wherein said starting powdered components are ground and mixed together in a number of cycles for 1-10 minutes.

10.(currently amended) The ~~A~~ method ~~as claimed in~~ of claim ~~1~~ 21, ~~CHARACTERIZED in that all operations at the step of preparing the molding powder are conducted in an~~ wherein at least said grinding and intermixing is in an inert gas atmosphere.

11.(cancelled)

12.(currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~11~~ 23, ~~CHARACTERIZED in that the~~ wherein said protective chamber is filled with an inert gas atmosphere.

13. (cancelled)

14. (currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~11~~ 23, ~~CHARACTERIZED in that the housing of the protective chamber is functionally combined with the~~ further comprising a load-bearing framework ~~of the structure of~~ supporting said device.

15. (currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~11~~ 23, ~~CHARACTERIZED in that the~~ wherein said inductor ~~with the coil~~ is disposed ~~on the~~ outside of said protective chamber.

16. (cancelled)

17. (currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~16~~ 24, ~~CHARACTERIZED in that the~~ wherein said flanged joint is separable.

18. (currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~16~~ 24, ~~CHARACTERIZED in that the~~ wherein said valve ~~appears as~~ comprises a ball cock ~~provided~~ with a drive mechanism mounted thereon for the ball cock to rotate.

19. (currently amended) The ~~A~~ device ~~as claimed in~~ of claim ~~16~~ 24, ~~CHARACTERIZED in that the~~ wherein said flanged joint ~~is~~

~~provided with~~ comprises a platform for the container to be ~~fixed~~ in a stationary ~~and positioned~~ position.

20. (cancelled)

21. (new) A method for producing tablets of a ceramic nuclear fuel comprising the steps of:

providing starting powdered components;

providing a container wherein said container is made of non-magnetic material and wherein said container has a cylinder-shaped working zone adapted to constantly accommodate said ferromagnetic needles, and an end zone wherein said working zone and said end zone are isolated from each other by a meshed partition impervious to said ferromagnetic needles;

charging said container with said starting powdered components, ferromagnetic needles and non-magnetic grinding process initiating agent wherein said starting powdered components are charged into said working zone through said end zone and said meshed partition;

hermetically sealing said container;

placing said hermetically sealed container in a tube wherein said tube is in an inductor magnetic field and wherein said working zone is in said inductor magnetic field;

grinding and intermixing said starting powdered component by said ferromagnetic needles moving in said inductor magnetic field thereby forming a powder mixture;

withdrawing said container from said tube;

cooling said container;

unsealing said container;

discharging said powder mixture into a granulation unit via said meshed partition and said end zone without unloading said ferromagnetic needles from said working zone;

pressing said powder mixture into a pellet;

sintering said pellet; and

wherein said ferromagnetic needles are added at a weight of from 2.5% to 90% of a critical mass at which said ferromagnetic needles stop rotating in said inductor magnetic field wherein said critical mass is calculated by formula:

$$m_{cr}=K_{cr}V_c\rho_n$$

wherein K_{cr} is a criticality factor of loading said working zone with said ferromagnetic needles; V_c is an interior volume of said container corresponding to a height of an electromagnetic field rotation zone; ρ_n is a density of said ferromagnetic needles.

22.(new) The method of claim 6 wherein said ratio of said total weight starting of powdered components to said weight of ferromagnetic needles is 0.5 to 2.0.

23.(new) A device for preparing a molding powder of ceramic nuclear fuel comprising:

a protective chamber comprising a circuit comprising:

a charging unit for adding starting powdered components and a grinding process initiating agent into a container wherein said container is cylinder-shaped and made from a non-magnetic material wherein said charging unit comprises a hermetic sealer for said container wherein said starting powdered components, said grinding process initiating agent and ferromagnetic material needles are sealed in said container;

a grinding and intermixing unit comprising:

a coil; and

a tube made from a non-magnetic material in said coil wherein said tube receives said container and said inductor and said tube have vertically arranged axis and wherein said tube is blanked off at the lower end thereof to form a fragment of said protective chamber;

a granulation unit; and

a container conveying and positioning system for moving said container through said circuit and into and out of said tube vertically along a tube axis and wherein said container is adapted to perform circular motion over said circuit from said charging unit towards said grinding and intermixing unit then to said granulation unit and again to said charging unit and for tipping over said container to discharge contents of said container in said granulation unit; and

wherein said protective chamber is provided with a conveying box for withdrawing said container from said protective chamber.

24.(new) A container comprising:

a cylinder-shaped area made from a non-magnetic material;

a sealing unit at one end of said container;

a hermetic sealing unit comprising a valve having an interior space separated from said cylinder-shaped area by a transversal meshed partition which is impervious to ferromagnetic needles and wherein said valve is connected to said cylinder-shaped area by a flanged joint; and

wherein said container comprises a working zone on its inner side and said working zone has a chamfered junction to a flat bottom thereof.